Abstract

A thyristor-based semiconductor device exhibits a relatively increased baseemitter capacitance. According to an example embodiment of the present invention, a
base region and an adjacent emitter region of a thyristor are doped such that the emitter
region has a lightly-doped portion having a light dopant concentration, relative to the
base region. In one embodiment, the thyristor is implemented in a memory circuit,
wherein the emitter region is coupled to a reference voltage line and a control port is
arranged for capacitively coupling to the thyristor for controlling current flow therein. In
another implementation, the thyristor is formed on a buried insulator layer of a siliconon-insulator (SOI) structure. With these approaches, current flow in the thyristor, e.g.,
for data storage therein, can be tightly controlled.

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